

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-19. (Cancelled)

20. (Currently Amended) A phase-change memory device comprising:

- (a) a lower dielectric layer;
- (b) a lower phase-change resistor, at least a part of the lateral surface of the lower phase-change resistor being surrounded by the lower dielectric layer; ~~and~~
- (c) a thin dielectric layer covering at least a part of the top surface of the lower phase-change resistor and including a pore having smaller area than the top surface of the lower phase-change resistor, aligned to the top surface of the lower phase change resistor and extending to the top surface of the lower phase change resistor; and
- (d) an upper phase-change resistor filling the pore, extending to cover at least a part of the top surface of the dielectric layer and contacting with the lower phase-change resistor through the pore.

21. (Cancelled)

22. (Currently Amended) The phase-change memory device as set forth in claim ~~16-20~~, ~~further comprising:~~

- ~~(d) an upper phase change resistor filling the pore and formed on the thin dielectric layer wherein the pore is aligned to the top surface of the lower phase-change resistor.~~

23. (Currently Amended) A phase-change memory device comprising:

- ~~(a) a lower dielectric layer;~~

(b)(a) a lower phase-change resistor, at least a part of the lateral surface of the lower phase-change resistor being surrounded by ~~the~~ a lower dielectric layer; ~~and~~

~~(e)(b) a thin dielectric layer covering at least a part of the top surface of the lower phase-change resistor and including a damaged spot pore aligned to the top surface of the lower phase-change resistor, the pore having smaller area than the top surface of the lower phase-change resistor, aligned to the top surface of the lower phase-change resistor and providing a current path to the top surface of the lower phase-change resistor; and~~

~~(d)(c) an upper phase-change resistor filling the pore, extending to cover at least a part of the top surface of the dielectric layer and contacting with the lower phase-change resistor through the pore.~~

24-25. (Cancelled)